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| APPLICATION NO.  | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 10/620,269   | 07/15/2003  | Sandeep Bhatt        | 02077(3600-395-01)  | 8766             |
| 7590<br>Martha Ann Finnegan, Esq.<br>Cabot Corporation<br>157 Concord Road<br>Billerica, MA 01821-7001 |             |                      |                     |                  |
| EXAMINER<br>HENDRICKSON, STUART L  |             |                      |                     |                  |
| ART UNIT   |             | PAPER NUMBER         |                     |                  |
| 1793   |             |                      |                     |                  |
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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

### Office Action Summary

**Application No.**

10/620,269

**Applicant(s)**

BHATT, SANDEEP

**Examiner**

Stuart Hendrickson

**Art Unit**

1793

**Period for Reply** -- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 05 December 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-21, 24 and 26-41 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-21, 24 and 26-41 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SF/08)  
Paper No(s)/Mail Date 10/8/08

- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claim 32 is rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. There is not sufficient disclosure of carbon black in a UV pipe. The patents on pg. 16 do not describe this kind of pipe, and the uses on line 7 do not correlate with UV properties or uses. What does 'jacketing' have to do with UV?

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claim 32 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

It is not clear what a 'UV pressure pipe' is, or how UV radiation relates to pressure.

The following summaries of individual references are made here for convenience sake, and apply to the rejections to follow:

The Industrial Carbon reference is presented as evidence that as-synthesized carbon blacks meet the 325 mesh limitation, except for the 'poor' grades- bearing in mind the age of the reference, which reflects the state of the art in the 1940s. Note also the sulfur values reported as typical. The Medalia article has extended discussion and pictures indicating that carbon black has a small particle size and meets the 325 mesh limitation.

Claims 1-21, 24, 26-30, 34-40 are rejected under 35 U.S.C. 102(b) as being anticipated by Sant 5877250, in view of Industrial Carbon and the Medalia article.

The reference teaches what appears to be the claimed carbon black; the size is 20 nm or less, the iodine area is 65-112. As to the 325 residue, see the evidentiary references. Moreover, specification pg. 13 indicates that the present carbon black is the same as that of Sant, with no modifications made, so the other properties appear possessed.

Claims 1-21, 24, 26-30, 34-40 are rejected under 35 U.S.C. 102(b) as being anticipated by Sant 5877251, in view of Industrial Carbon and the Medalia article.

The reference teaches a carbon black having size 25 nm or less, the iodine area is 50-112. As to the 325 residue, see the evidentiary references. Moreover specification pg. 13 indicates that the present carbon black is the same as that of Sant, with no modifications made, so the other properties appear possessed.

Claims 1-10, 26, 29-33 and 41 are rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-21 of U.S. Patent No. 6482386, in view of Industrial Carbon and the Medalia article. Although the conflicting claims are not identical, they are not patentably distinct from each other because the numerical values overlap.

Column 4 teaches a tube shape and fluffy form, which indicates the 325 mesh limitation is met. Of great interest is the teaching in col. 3 that the carbon blacks can be made by the process of 5877250- compare to present specification pg. 13. If both are made by the same process, then they are prima-facie patentably indistinct.

Claims 1-9, 11-17, 19-21, 24-26, 28-29, 34-36 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Yamazaki et al. 6025429 in view of Weaver et al. 5352289, Dickerson 4755371, Industrial Carbon and the Medalia article.

Yamazaki teaches in the entire document, especially ex. 6 and col. 11, examples of acetylene blacks having low grit contents, and iodine values of 92 and 110. Table 1 explicitly teaches ash values in the claimed range.

Weaver teaches in col. 3 that acetylene blacks are known to be low in S, which is expected because they are made from a source which contains little or no S. Note also the DBP values recited. Thus, it appears that the carbon of Yamazaki is patentably indistinct from that which is claimed.

Dickerson teaches in column 6 the claimed 325 mesh residue for carbon black. The Industrial Carbon reference is presented as evidence that as-synthesized carbon blacks meet the 325 mesh limitation, as is Medalia (*supra*). Therefore, it appears based upon this additional evidence that the carbon black of Yamazaki renders the claims unpatentable. The particle size is unknown, but no difference has been shown. Col. 1 of Yamazaki teaches polymers and col. 3 teaches the loading.

Claims 30-33 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yamazaki et al. 6025429 in view of Weaver et al. 5352289, Dickerson 4755371, Industrial Carbon and the Medalia article above as applied to claims 1, 4, 29, and further taken with WO 01/79345.

The above references do not teach the claimed pipe, however '345 teaches forming one to transport water or natural gas (both under pressure). If used for water, then water is present. If used for natural gas, then an underground (ie, potentially moist environment) pipe is inferred. Weaver col. 3 teaches that low S carbon black is desirable where water could be a problem, thus using the carbon black of Yamazaki in a pipe is an obvious expedient to avoid 'tree' formation.

Claims 1-3, 11-21, 24, 34-36, 37-40 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Giet 4013759 in view of Dickerson, Weaver, Medalia article, Industrial Carbon and the Dee Snell article.

Giet teaches, in the entire patent but especially in column 6, high purity carbon black which can possess the claimed area. From the data in col. 6 middle, the ash and S contents are mathematically met by subtraction from 100%. The particle sizes are 15-20 nm. It is noted that Giet does not actually specify which (iodine or nitrogen) area is reported, so a difference may not exist. Iodine and nitrogen are shown to correlate by the Dee Snell/Schubert article pg. 186 submitted thus, even if Giet refers to the nitrogen and not iodine area, the claimed iodine area appears to be met.

The 74 micron residue reported is 200 mesh; so the 200 mesh residue is known to be zero. Dickerson, Weaver, Medalia and Industrial Carbon are relied upon as above. Concerning claims 34-36, no difference is seen due to the similarity of the other properties.

Claims 1-21, 24, 26-30, 34-40 are rejected under 35 U.S.C. 103(a) as being unpatentable over Giet in view of Dickerson, Weaver, Medalia article and Industrial Carbon, and taken with Von Konynenburg.

Giet not does show a polymer material, but teaches the advantages thereof in col. 1. Using the claimed polymers is an obvious expedient to provide an 'electro-conductive rubber' composition. The amount of carbon is deemed an obvious expedient of optimization of properties; the wide range of ratios include what appear to be conventional ratios- see Von Konynenburg col. 8 and 15. Note also In re Boesch 205 USPQ 215. Claim 30 appears to encompass normal shapes of extruded polymer.

Claims 30-33 are rejected under 35 U.S.C. 103(a) as being unpatentable over Giet in view of Dickerson, Weaver, Medalia article and Industrial Carbon, and taken with Von Konynenburg as applied to claims 1, 4, 29 above, and further in view of WO '345.

The above references do not teach the claimed pipe, however '345 teaches forming one to transport water or natural gas (both under pressure). If used for water, then water is present. If used for natural gas, then an underground (ie, potentially moist environment) pipe is inferred.

Weaver col. 3 teaches that low S carbon black is desirable where water could be a problem, thus using the carbon black of Giet in a pipe is an obvious expedient to avoid 'tree' formation.

Applicant's arguments filed 12/5/08 have been fully considered but they are not persuasive. The Dee Snell reference is on the record, and is valid evidence if needed, however the rejection has been clarified. The arguments concerning the Sant references rely upon semantics; it is not seen why carbon black itself is not a 'carbon black product'. More to the point is the text on specification pg. 13- the claims of the '250 patent are to carbon black. Note also the title of the '250 patent 'Carbon blacks and compositions incorporating [them]'. So clearly, a carbon black product is a carbon black by itself; it is the extra ingredients that make it a 'composition'. The teachings of the Medalia and Industrial Carbon article (where they may disagree with the '250 patent) are trumped by the admission that the present carbon was made by the '250 process. When two materials are made by the same process, it is axiomatic that they are prima facie indistinct and no evidence to the contrary- despite the fact that the '250 products are owned by the applicant so a test could be readily performed- has been offered. The argument that a multiple-reference 102 is improper (pg. 15) is fallacious because the additional references, if needed, are evidentiary. The arguments over the '251 reference are essentially duplicated and thus no further response is deemed necessary. The '790 ODP is withdrawn. On pg. 25 is argued the ODP over '386. The '386 patent encompasses all S values, including those claimed. As to what values are inherent in the examples of '386, then it appears to be the same as present because 1) both are made by the Sant process and 2) the reference contemplates low S content starting materials 3) even assuming that no S is lost as SO<sub>2</sub> during combustion, then 1000 ppm is the same as 0.1% S, so the S content appears met. Appellant has not offered any evidence to the contrary. Concerning the mesh residue, the process is the same as present, the '250 patent, and applicant has no data showing a difference-even

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assuming that the argument is correct that fluffy is irrelevant as to 325 mesh. The teaching of 0.03 ppm 325 residue is for poorer grades, from the 1940s.

Concerning Yamazaki, the reference explicitly teaches ash of 17-90 ppm. The argument that the ASTM test for finding the value is different fails since no actual difference in ash content has been shown, nor has it been established that the patented number is inaccurate. Yamazaki is an acetylene black, and Weaver establishes that it therefore lacks sulfur- which is absolutely logical and expected since  $C_2H_2$  contains no sulfur. Any comparison to furnace blacks by Weaver is simply irrelevant. If a material contains zero sulfur, it is not seen to matter which test was performed to determine this fact. Again, Industrial Carbon teaches 'trace' 325 mesh residue for good grades of carbon black, and this has not been shown to differ from the claimed range. The particle size is not taught, but due to the similarity of all the other properties, it appears possessed.

Concerning Giet, the reference is an acetylene black of size 20 nm (note that Yamzaki's acetylene black above did not report the size, so it might also be 20 nm).

/Stuart Hendrickson/

Primary Examiner, Art Unit 1793